Overview of 8 Systemic Safety Treatments

VDOT is helping reduce traffic crashes and associated deaths and injuries by deploying eight systemic safety countermeasures at strategic locations on Virginia's public roads. Basic information about each treatment can be found below. If you have any specific questions, please contact Mark Cole at Mark.Cole@VDOT.Virginia.gov or Stephen Read at Stephen.Read@VDOT.Virginia.gov.

High-visibility Backplates

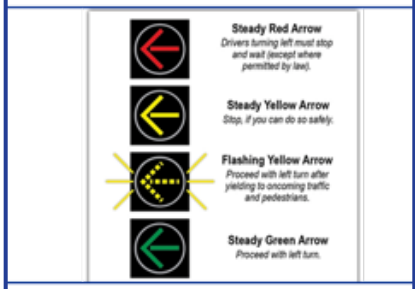
Up to 15% crash reduction

Per the Federal Highway Administration, **high-visiblity, reflective backplates,** installed around the traffic signal, makes the traffic signal more visible and conspicuous in both day and night-time conditions. Reflective backplates have also been shown to help older drivers and drivers with color vision deficiency be better able to recognize the traffic signal.

Where deployed, high-visibility traffic signal backplates have been shown to reduce total intersection crashes by 15% and serious intersection crashes by up to 30%. If fully deployed on VDOT signals in Virginia, **it is estimated that one death and 106 injuries could be prevented every year**.

For more information:
https://safety.fhwa.dot.gov/provencountermeasures/blackplate/

Flashing Yellow Arrow



Up to 20% crash reduction

Per the Federal Highway Administration, **flashing yellow arrows** increase the likelihood that all drivers, but particularly aging drivers, will wait for an appropriate gap in oncoming traffic before beginning a permissive left-turn maneuver, rather than incorrectly assuming that they have the right-of-way. This, in turn, results in a decrease in the likelihood of right-angle and other crashes (and associated injuries) that are particularly common among drivers making unprotected left turns.

Where deployed, flashing yellow arrows have been shown to reduce total left turn crashes at intersections by up to 20%. If fully deployed at VDOT traffic signals in Virginia, **it is estimated that one death and 90 injuries could be prevented every year**.

For more information:
https://www.youtube.com/watch?v=UN1KmnXnW_Q&feature=youtu.be

Curve Signs

Up to 40% crash reduction

Curve Signs, also known as chevrons, are installed along the side of the roadway in curve locations to help drivers understand the severity of the curve and adjust their speed and driving behavior accordingly.

Where deployed, curve signs have been shown to reduce crashes by up to 40%. If fully deployed in Virginia on VDOT roads, **it is estimated that six deaths and 104 injuries could be prevented every year**.

For more information:
https://safety.fhwa.dot.gov/provencountermeasures/enhanced_delineation/

Pedestrian Crossings

Up to 56% crash reduction

Pedestrian crossings, and in particular, marked crosswalks with pedestrian countdown signals at traffic signals, help pedestrians know the safest location to cross the street and help motorists know where to expect pedestrians to cross. VDOT has developed an action plan to improve pedestrian safety, which identifies priority pedestrian corridors where pedestrian crossings are needed.

Where deployed, marked crosswalks with pedestrian countdown signals can reduce pedestrian crashes by up to 56%. If fully deployed in Virginia at VDOT traffic signals on priority Pedestrian corridors, **it is estimated that three deaths and 85 injuries could be prevented every year**.

For more information:
https://safety.fhwa.dot.gov/ped_bike/step/docs/TechSheet_VizEnhancemt_508compliant.pdf

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Unsignalized Intersections

Up to 10% crash reduction

Per the Federal Highway Administration, deployment of multiple low-cost countermeasures at **unsignalized, stop-sign controlled intersections** help increase driver awareness of and potential conflicts at intersections. Typical treatments include increased signage (such as stop sign ahead signs) and pavement markings such as stop bars.

Where deployed, these treatments have been shown to reduce crashes by up to 10%. If fully deployed in Virginia at approximately 1700 intersections that have been identified as having higher than typical crash results, **it is estimated that two deaths and 62 injuries could be prevented every year**.

For more information:
https://safety.fhwa.dot.gov/provencountermeasures/syst_stop_control/

Shoulder Wedge

Up to 20% crash reduction

Pavement shoulder wedge, also known as the Safety EdgeTM, installs a sloped pavement edge when paving is done instead of a vertical edge that has typically been installed over the years. The sloped edge makes it easier for a vehicle to return to the roadway if they drop off the pavement edge as opposed to the vertical edge which can cause a driver to overcorrect.

Where deployed, pavement shoulder wedge has been shown to reduce road departure crashes by up to 20%. If fully deployed in Virginia along roads with speeds over 35 mph and no curb and gutter, **it is estimated that thirteen deaths and 281 injuries could be prevented every year**.

For more information:
https://safety.fhwa.dot.gov/provencountermeasures/safety_edge/

Centerline Rumble Stripes

Up to 60% crash reduction

Centerline rumble stripes are grooves that are ground into the pavement at the centerline. They alert drivers that they are leaving their travel lane to cross the centerline by vibrating and creating noise. The centerline pavement marking is placed in the rumble grooves, which increases the visibility of the pavement marking over time.

Where deployed, centerline rumble stripes been shown to reduce road departure crashes by up to 60%. If fully deployed in Virginia on primary system roads with no curb and gutter, **it is estimated that thirteen deaths and 115 injuries could be prevented every year**.

For more information:
https://safety.fhwa.dot.gov/provencountermeasures/long_rumble_strip/

Edgeline Rumble Strips

Up to 50% crash reduction

Edgeline rumble strips and stripes, like centerline rumble stripes, are grooves that are ground into the pavement near the roadway edge lines. They can be placed on the roadway paved shoulder or under the edge line pavement marking. The rumbles notify drivers when a vehicle is leaving the travel lane through vibration and noise that is created when the vehicle runs over the rumble strip.

Where deployed, edgeline rumble strips have been shown to reduce road departure crashes by up to 50%. If fully deployed in Virginia on primary system roads with no curb and gutter, **it is estimated that 22 deaths and 331 injuries could be prevented every year**.

For more information:
https://safety.fhwa.dot.gov/provencountermeasures/long_rumble_strip/